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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,835	08/24/2006	Masanori Ogawa	2710/76787	1492

23432 7590 03/28/2008
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EXAMINER

CHOI, PETER Y

ART UNIT	PAPER NUMBER
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1794

MAIL DATE	DELIVERY MODE
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03/28/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/590,835	Applicant(s) OGAWA ET AL.	
	Examiner Peter Y. Choi	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5,6 and 16-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,6 and 16-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

FINAL ACTION

Information Disclosure Statement

1. It is noted that WO 02/038374 to Ogawa was not cited in an IDS even though the publication is clearly material to the current application. It is noted that WO 02/038374 appears to share the same assignee, inventor(s) and attorney as the current application. 37 CFR 1.56(a) states that the duty of candor and good faith is owed in dealing with the Office and that each individual associated with the filing and prosecution of a patent application has a duty to disclose to the Office information material to the present application. Materiality is not limited to prior art but embraces any information that a reasonable examiner would be substantially likely to consider important in deciding whether to allow an application to issue as a patent.

Claim Objections

2. Claims 1 and 24 are objected to because of the following informalities: the claim language of claims 1 and 24 are confusing as the claims recite “fire retardant capsules consisting of a fire retardant powder covered with a synthetic resin shell are added.” It appears that there should be commas following “fire retardant capsules” and “synthetic resin shell.” Appropriate corrections are required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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4. Claim 19 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 19 recites that the film has a thickness between 10 and 200 mm. Applicants' specification as originally filed does not provide support for the limitation that the thickness of the film is between 10 and 200 mm.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-3, 5, 6, and 16-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1-3, 5, 6, and 16-24, claim 1 and 24 recite fire retardant capsules covered with a synthetic resin shell, wherein a sulfomethylated or sulfimethylated phenolic resin is added to the fiber sheet. Based on the amended claim 1 and new claim 24, it is unclear whether the synthetic resin shell and the phenolic resin are the same resin or whether the fire retardant capsules are covered with a synthetic resin and further covered with the phenolic resin.

Regarding claims 1-3, 5, 6, and 16-23, claim 1 recites that the mass is "relative to the mass of said fiber sheet net of the capsules." The inclusion of the phrase "fiber sheet net" is unclear since the verbiage is unclear as to what "fiber sheet net of the capsules" entails. It is

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suggested that if Applicants intend for “net” to substitute for “without taking into account,” then the each instance of “net” should be amended accordingly.

Regarding claim 19, the claim recites a thickness of between “10 and 200 mm.”

Although the claim is correctly identified as a currently amended claim, the claim does not indicate that the thickness value has been amended and the specification as originally filed discloses a thickness of between “10 and 200 μm” as opposed to “10 and 200 mm.” It is unclear whether the thickness is claimed as between 10 and 200 mm, as the claim presently recites, or 10 and 200 μm, as the claim originally recited. For purposes of examination, the claim is interpreted as “a thickness of between 10 and 200 μm.”

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-3, 6, 16-19, and 21-24 are rejected under 35 U.S.C. 103(a) as obvious over WO 02/038374 to Ogawa (the translation presented as US Pub. No. 2004/0100125 to Ogawa) in view of USPN 6,362,269 to Ishihata, with USPN 6,384,128 to Wadahara cited to show a state of fact.

Regarding claims 1-3, 6, 16-19, and 21-23, Ogawa teaches a fire resistant fiber sheet consisting of a fiber sheet in which fire retardant capsules consisting of a fire retardant powder are added, wherein a sulfomethylated and/or sulfimethylated phenolic resin is added to the fiber

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sheet in an amount of between 5 and 200% by mass (see entire document including paragraphs 0001-0003, 0013-0019, 0024-0031, 0045, 0052, claims 1-7).

Regarding claims 1-3, 6, 16-19, and 21-23, Ogawa does not appear to teach that the fire retardant capsules consist of a fire retardant powder covered with a synthetic resin shell. However, Ogawa teaches the inclusion of a powder such as a fire retardant or an ant flame agent to the sulfomethylated or sulfimethylated phenolic resin (Ogawa, paragraph 0031). Ishihata teaches a resin composition suitable for use in molded articles comprising an aromatic resin, fibers and phosphorus or microencapsulated phosphorus particles, wherein the phosphorus is encapsulated by a thermosetting resin (Ishihata, column 1 lines 5-9, column 3 lines 1-35, column 15 line 34 to column 17 line 36, column 23 line 12 to column 26 line 19). It would have been obvious to one of ordinary skill in the molded articles art at the time the invention was made to form the fiber sheet of Ogawa, wherein the fire retardant comprises microencapsulated phosphorus particles, as taught by Ishihata, motivated by the desire of forming a conventional fiber sheet with a fire retardant known in the art to be suitable for use in molded articles and since the encapsulated phosphorus particles are known in the art to be preferable due to its higher safety and workability and since the encapsulated phosphorus particles are commercially available.

Regarding claim 2, Ogawa does not appear to teach that the fire retardant capsules are added to the fiber sheet in an amount of between 5% and 80% by mass relative to the mass of the fiber sheet net of the capsules. Since Ogawa is silent with regards to the specific amount of fire retardant capsules, it would have been necessary and thus obvious to look to the prior art for conventional add-on amounts. Ishihata provides this conventional teaching showing that it is

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known in the art to add flame retardant microencapsulated phosphorus particles to resin suitable for use in molded articles wherein the amount of particles added to the resin is between 0.1 to 25 parts by weight (Ishihata, column 26 lines 8-20). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to form the fiber sheet of Ogawa, with the percentage of microencapsulated phosphorus particles, as taught by Ishihata, motivated by the desire of forming a conventional molded article having microencapsulated phosphorus particles with a percentage of particles known in the art to be suitable for use in molded articles.

Regarding claim 3, the fire retardant powder of the fire retardant capsules is water soluble and the synthetic resin shells are water insoluble (Ishihata, column 23 line 12 to column 26 line 19). It should be noted that the thermosetting resin of Ishihata is a melamine resin which is substantially similar to the synthetic resin shell taught in Applicants' specification. Additionally, Wadahara teaches that red phosphorus is inherently water soluble (Wadahara, column 16 lines 12-61).

Regarding claim 6, an additional fiber having a low melting point of below 180°C is mixed in with the fiber (Ogawa, paragraph 0013). It should be noted that Applicants' specification at page 6 teaches that fibers such as polyvinyl chloride fibers have a melting point of below 180°C.

Regarding claims 16, 17 and 23, Ogawa in view of Ishihata teaches a molded article wherein the fire resistant fiber sheet is molded into a prescribed shape (Ogawa, paragraph 0040).

Regarding claim 17, Ogawa in view of Ishihata does not appear to teach that the ventilation resistance of the molded article is in the range of between 0.1 and 100kPa · s/m. Although the prior art does not disclose claimed ventilation resistance, the claimed property is

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deemed to be inherent to the structure in the prior art combination since the prior art combination teaches an invention with a substantially similar structure and chemical composition (a molded fiber resistant fiber sheet comprising the claimed fire retardant capsule and sulfimethylated and/or sulfomethylated phenolic resin) as the claimed invention. Products of identical structure and composition cannot have mutually exclusive properties. The burden is on the Applicants to prove otherwise. Additionally, it should be noted that the claimed ventilation resistance is a result effective variable. As the thickness and the amount of the film increases, the air permeability or air flow resistance decreases while the structure becomes more rigid and secure. Absent unexpected results, it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the ventilation resistance, since it has been held that where general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In the present invention one would have been motivated to optimize the ventilation resistance in order to form a conventional molded article with the desired gas permeability, soundproofing and impact absorption properties taught by Ogawa (paragraphs 0035-0040, 0052).

Regarding claim 18, Ogawa in view of Ishihata teaches a laminated material wherein other porous sheet(s) is (are) laminated onto one or both sides of the fire resistant fiber sheet (Ogawa paragraphs 0035-0040).

Regarding claims 19, 21 and 22, Ogawa in view of Ishihata teaches that the porous sheet(s) is (are) laminated onto one or both sides of the fire resistant fiber sheet through thermoplastic resin film(s) that has (have) a thickness of between 10 and 200 μm (Ogawa, paragraph 0003).

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Regarding claims 21 and 22, Ogawa in view of Ishihata teaches a laminated material is molded into a prescribed shape (Ogawa, paragraph 0040).

Regarding claim 22, Ogawa in view of Ishihata does not appear to teach that the ventilation resistance of the molded article is in the range of between 0.1 and 100kPa · s/m. Although the prior art does not disclose claimed ventilation resistance, the claimed property is deemed to be inherent to the structure in the prior art combination since the prior art combination teaches an invention with a substantially similar structure and chemical composition (a molded fiber resistant fiber sheet comprising the claimed fire retardant capsule and sulfomethylated and/or sulfomethylated phenolic resin) as the claimed invention. Products of identical structure and composition cannot have mutually exclusive properties. The burden is on the Applicants to prove otherwise. Additionally, it should be noted that the claimed ventilation resistance is a result effective variable. As the thickness and the amount of the film increases, the air permeability or air flow resistance decreases while the structure becomes more rigid and secure. Absent unexpected results, it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the ventilation resistance, since it has been held that where general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In the present invention one would have been motivated to optimize the ventilation resistance in order to form a conventional molded article with the desired gas permeability, soundproofing and impact absorption properties taught by Ogawa (paragraphs 0035-0040, 0052).

Regarding claim 23, Ogawa in view of Ishihata teaches a fire resistant acoustic material for cars made of a molded article (Ogawa, paragraph 0040).

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Regarding claim 24, Ogawa teaches a fire resistant fiber sheet comprising a fiber sheet in which fire retardant capsules consisting of a fire retardant powder are added, wherein a sulfomethylated and/or sulfimethylated phenolic resin is added to the fiber sheet in an amount of between 5 and 200% by mass relative to the mass of the fibers sheet net of the capsules (see entire document including paragraphs 0001-0003, 0013-0019, 0024-0031, 0045, 0052, claims 1-7).

Regarding claim 24, Ogawa does not appear to teach that the fire retardant capsules consist of a fire retardant powder covered with a synthetic resin shell. However, Ogawa teaches the inclusion of a powder such as a fire retardant or an antifiame agent to the sulfomethylated or sulfimethylated phenolic resin (Ogawa, paragraph 0031). Ishihata teaches a resin composition suitable for use in molded articles comprising an aromatic resin, fibers and phosphorus or microencapsulated phosphorus particles, wherein the phosphorus is encapsulated by a thermosetting resin (Ishihata, column 1 lines 5-9, column 3 lines 1-35, column 15 line 34 to column 17 line 36, column 23 line 12 to column 26 line 19). It would have been obvious to one of ordinary skill in the molded articles art at the time the invention was made to form the fiber sheet of Ogawa, wherein the fire retardant comprises microencapsulated phosphorus particles, as taught by Ishihata, motivated by the desire of forming a conventional fiber sheet with a fire retardant known in the art to be suitable for use in molded articles and since the encapsulated phosphorus particles are known in the art to be preferable due to its higher safety and workability and since the encapsulated phosphorus particles are commercially available.

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9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa in view of Ishihata, as applied to claims 1-3, 6, 16-19, and 21-24 above, and further in view of USPN 5,188,896 to Suh.

Regarding claim 5, Ogawa in view of Ishihata does not appear to teach that the fibers are hollowed or a mixture of solid and hollowed fibers. However, Suh teaches a thermal insulation comprising hollow thermoplastic fibers and polymeric fibers wherein the fibers are coated with a synthetic resin and a flame retardant (Suh, column 1 lines 13-49, column 4 line 13 to column 5 line 48, Example 3). It would have been obvious to one of ordinary skill in the fire retardant fiber art to form the fire retardant fiber sheet of Ogawa in view of Ishihata, wherein the fibers comprise hollow thermoplastic fibers and polymeric fibers, as taught by Suh, motivated by the desire of forming a conventional fire retardant fiber sheet with fire resistant properties which is lightweight and provides good fire resistance, and such a combination was known and the resulting product predictable at the time the invention was made.

10. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa in view of Ishihata, as applied to claims 1-3, 6, 16-19, and 21-24 above, and further in view of US Pub. No. 2005/0263345 to Erickson.

Regarding claim 20, Ogawa in view of Ishihata does not appear to teach that a hot melt adhesive powder is scattered onto one or both sides of the fire resistant fiber sheet in an amount of between 1 and 100 g/m² and the other porous material sheet(s) is (are) laminated onto the fiber sheet through the scattered layer of hot melt adhesive powder. However, Erickson teaches that it was known to form a sound absorbent material or trim panel and headliner, comprising multiple

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layers of fibrous material and adhesive powder, wherein the acoustic flow resistance is in the range of about 500 to 2500 Rayls and the adhesive powder is applied as a coating at a weight of about 10 g/m^2 (Erickson, paragraphs 0002, 0003, 0008-0015, 0034-0037, 0042, 0043). It would have been obvious to one of ordinary skill in the vehicle panel art to form the molded vehicle article of Ogawa in view of Ishihata, having the ventilation resistance and amount of adhesive powder adhering the porous sheet to the fiber sheet, as taught by Erickson, motivated by the desire of forming a conventional vehicle panel with desirable sound absorption properties which maintains porosity and provides acoustic absorption by minimizing reflection of sound waves.

Response to Arguments

11. Applicant's arguments with respect to claims 1-3, 5, 6, and 16-24 have been considered but are moot in view of the new grounds of rejection.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Y. Choi whose telephone number is (571)272-6730. The examiner can normally be reached on Monday - Friday, 08:00 - 15:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew T Piziali/
Primary Examiner, Art Unit 1794

/Peter Y Choi/
Examiner, Art Unit 1794